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### REMARKS

Claims 15-25 have been canceled, and Claims 26-37 have been added, leaving Claims 26-37 for consideration upon entry of the present amendment. Support for the new claims is found in the specification and claims as originally filed. In particular,

support for new claim 27 is found at Page 9, line 19 of the Specification as originally filed;

support for new claim 28 is found at Page 9, line 18 of the Specification and in Claim 24 as originally filed;

support for new claim 29 is found at Page 6, lines 1-2 of the Specification and in Claim 16 as originally filed;

support for new claim 30 is found at Page 6, lines 14-15 of the Specification and in Claim 17 as originally filed;

support for new claim 31 is found at Page 6, lines 11-13 of the Specification and in Claim 20 as originally filed;

support for new claim 32 is found at Page 6, lines 11-13 and Page 7, lines 1-2 of the Specification as originally filed;

support for new claim 33 is found at Page 7, lines 1-2 of the Specification and in claim 19 as originally filed;

support for new claim 34 is found at Page 6, lines 21-22 of the Specification and in claim 21 as originally filed;

support for new claim 35 is found at Page 8, lines 3-4 of the Specification as originally filed;

support for new claim 36 is found at Page 8, lines 3-4 of the Specification as originally filed; and

support for new claim 37 is found at Page 7, lines 9-14 of the Specification as originally filed.

No new matter is introduced by the newly added claims. The additional claims have been made for the purpose of further claiming the invention, rather than to overcome any rejections

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related to patentability.

Under 35 U.S.C. § 121, the Examiner has required that Applicants elect a single species for (A) the high neutron capture cross-section element, and for (B) the electrolytically precipitable metallic element. Applicants respectfully request reconsideration and withdrawal of this election requirement. However, in order to advance prosecution, Applicants hereby provisionally elect with traverse gadolinium as the high neutron capture cross-section element (A), wherein claims 26-37 are readable on this provisionally elected species; and provisionally elect with traverse cadmium as the electrolytically precipitable metallic element (B), wherein claims 26-37 are readable on this provisionally elected species. This election is being made without prejudice to Applicants' rights with respect to the other members in each of these claims. Furthermore, Applicants respectfully point out that Claim 26 is generic to these species claims; therefore, if claim 26 is found allowable, then all of the species set forth in claims 31 and 34 are also allowable.

Applicants respectfully assert that both elections are made provisionally and with traverse. First, Applicants submit that both new claims 31 and 34 are Markush-type claims. Under MPEP § 803.02, if the members of the Markush group are sufficiently few in number or so closely related that a search and examination of the entire claim can be made without serious burden, the examiner must examine all the members of the Markush group in the claim on the merits, even though they are directed to independent and distinct inventions. Applicants submit that the members included as possible elements having a high neutron capture cross-section are sufficiently small in number and are sufficiently related such that no undue burden is placed on the examiner in conducting a prior art search and in examining claim 31. Additionally, the members included as possible electrolytically precipitable metallic elements are also sufficiently few in number and are also closely related, as they are all transition metals. Consequently, Applicants submit that no undue burden is placed on the examiner with regard to the prior art search or the examination of claim 34.

Additionally, Applicants note that MPEP § 803.02 states that it is improper for the Office to refuse to examine that which applicants regard as their invention, unless the subject matter in a

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claim lacks unity of invention. *In re Harnish*, 631, F.2d 716, 206 USPQ 300 (CCPA 1980); and *Ex parte Hozumi*, 3 USPQ2d 1059 (Bd. Pat. App. & Int. 1984). Unity of invention exists where compounds included within a Markush group (1) share a common utility, and (2) share a substantial structural feature disclosed as being essential to that utility. M.P.E.P. § 803.02 (8<sup>th</sup> ed.).

Applicants submit that the members forming the high neutron capture cross-section element have common utility and share a substantial structural feature disclosed as essential to that utility. That is, in the Specification, it is stated that the utility of using the stated members of the Markush group is that it permits good control of the electrolysis, and that, surprisingly, embedment rates can be significantly augmented (Specification, Page 6, lines 4-9). The members in the Markush group can achieve this utility, because they share a substantial structural feature, which allows them to have high neutron capture capability. Therefore, because the elements included within the Markush group (1) share a common utility, and (2) share a substantial structural feature disclosed as being essential to that utility, unity of invention exists. It is, therefore, improper to require an election of species in the Markush group of claim 31. Accordingly, reconsideration and withdrawal of this election requirement is requested.

Applicants further submit that the members forming the electrolytically precipitable metallic element have common utility and share a substantial structural feature disclosed as essential to that utility. That is, the Specification states that "metallic elements particularly suitable for electrolytic or autocatalytic deposition include nickel, cadmium or copper. The element with a high neutron capture cross-section, or a compound thereof, is embedded in this metal matrix for corresponding effectiveness." (Specification, Page 6, lines 21-23). Therefore, the utility of the members is in promoting the element with a high neutron capture cross-section to embed within the electrolytically precipitable metallic element. The structural feature stated in the specification pertains to the fact that all of the cited elements are metals, such that the metallic properties achieves the desired connection between the metallic element and the high neutron capture cross-section element. Therefore, because the elements included within the Markush group (1) share a common utility, and (2) share a substantial structural feature disclosed

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as being essential to that utility, unity of invention exists. It is, therefore, improper to require an election of species in the Markush group of claim 34. Accordingly, reconsideration and withdrawal of this election requirement is requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicants' attorneys.

Respectfully submitted,

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